U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
TIBURON PAINTBRUSH
Castilleja affinis ssp. neglecta

CLASSIFICATION: ENDANGERED
Federal Register Notice 60:6671; February 3, 1995
http://ecos.fws.gov/docs/federal_register/fr2779.pdf (125 KB)

This species was listed as threatened by the California Department of Fish and Game in January 1990, under the name Tiburon Indian paintbrush. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range).

CRITICAL HABITAT: Not designated

RECOVERY PLAN: Final
Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area; September 30, 1998.
http://ecos.fws.gov/docs/recovery_plan/980930c_v2.pdf (22 MB)

5-YEAR REVIEW: Started March 25, 2009
http://www.fws.gov/policy/library/E8-4258.html

DESCRIPTION
Tiburon paintbrush is a semi-woody perennial of the snapdragon family (Scrophulariaceae). It has erect, branched stems 30 to 60 centimeters (1 to 2 feet) tall and a sparse covering of soft, spreading hairs. The lance-shaped leaves are 20 to 40 millimeters (0.8 to 1.6 inches) long and have 0 to *5* lobes.

Conspicuous floral bracts are yellowish and sometimes red-tipped; the flowers are yellow to red and 18 to 20 millimeters (0.7 to 0.8 inch) long. The plant is a perennial, flowering from April to June. It is believed that the flowers were largely bee pollinated.

Seeds are shed in June and July, and the species dies back to its woody base in July and August. New growth from the woody base begins in December or January. \

Seeds may remain dormant in the soil for several years. Seed germination occurs in January or February and seems to be induced by leaching and low temperatures *(5* to 15 degrees Celsius or 45 to 59 degrees Fahrenheit).

The simple (unbranched) hairs and the lack of glands below the inflorescence (entire cluster of flowers and associated structures) distinguish *C. affinis* spp. *neglecta* from other species of *Castlleja* on the Tiburon Peninsula (Monterey Coast paintbrush and Texas paintbrush).

Tiburon paintbrush is a root parasite on other flowering plants. The primary advantage of the parasitic attachment in *Castilleja* and related plants in the figwort family seems to be an increased water and mineral supply. Though the parasitic relationship is not required, benefits include increased vigor with more branching, greater height and earlier flowering.

SERPENTINE SOIL PLANTS:

Serpentine soils are formed from weathered volcanic (ultramafic) rocks such as serpentinite, dunite, and peridotite. These soils provide a harsh environment for plant growth. Several factors contribute to the inhospitability of serpentine soils to plant growth

1) Low calcium-magnesium ratio;

2) Lack of essential nutrients such as nitrogen, potassium, and phosphorous; and

3) High concentrations of heavy metals (mineral toxicity).

However, serpentine plant species have adapted to serpentine soils and require them to survive.

See the recovery plan (above) for more information about serpentine soil species.

Contact the Coastal Branch of our office (formerly the Coast-Bay-Delta Branch) at 916-414-6625 for consultations concerning serpentine soil species.

The Bay Checkerspot Butterfly PDF | RTF is an insect that depends on serpentine soil plants, primarily dwarf plantain (*Plantago erecta*).

DISTRIBUTION

Tiburon paintbrush occurs in serpentine bunchgrass, at elevations between about 75 and 400 meters (250and 1,300 feet), on north to west facing slopes in Marin, Napa and Santa Clara counties.

U.S. Geological Survey 7.5 Minute Quads: Morgan Hill (406B) 3712126, San Quentin (466B) 3712284, Bolinas (467B) 3712286, Cordelia (482B) 3812222, San Geronimo (484C) 3812216.

THREATS

Tiburon paintbrush has never been widespread. The Marin County populations are threatened by residential development, foot traffic and soil slumping. The Napa County population is threatened by gravel mining.

REFERENCES FOR ADDITIONAL INFORMATION

General references about California plants
www.fws.gov/sacramento/es/plant_spp_accts/plant_references.htm

Kruckeberg, A.R. 1984a. California serpentines: Flora, vegetation, geology, soils, and management problems. University of California Press, Berkeley, California. 180 pp.

_____. 1984b. The flora on California's serpentine. Fremontia 11(5): 3-10. 11(5): 3-10.

Credits: John Cleckler, U.S. Fish & Wildlife Service. Larger image: www.fws.gov/sacramento/images/Tiburon_paintbrush_John_Cleckler_FWS_Coyote_Ridge.jpg

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